JDR
JOURNAL OF DENTAL RESEARCH®
The journal for dental, oral and craniofacial research
VOLUME 95
NUMBER 6
June, 2016

CONTENTS

Reviews

CRITICAL REVIEWS IN ORAL BIOLOGY & MEDICINE

The Emotional Brain as a Predictor and Amplifier of Chronic Pain 605
E. Vachon-Presseau, M.V. Centeno, W. Ren, S.E. Berger, P. Tétreault, M. Ghantous, A. Baria, M. Farmer, M.N. Baliki, T.J. Schnitzer, and A.V. Apkarian
The authors propose a definition of chronic pain emphasizing the neurobiological mechanisms that control behavioral adaptations, likely mediated through the reorganization of the cortex by corticolimbic learning mechanisms.

CLINICAL REVIEW

Directly Placed Restorative Materials: Review and Network Meta-analysis 613
F. Schwendicke, G. Göstemeyer, U. Blunck, S. Paris, L.-Y. Hsu, and Y.-K. Tu
In this review, the authors compared the efficacy of dental restorative material combinations, finding that for cervical cavities and load-bearing restorations, resin-modified glass ionomer cements and conventional composites had the highest chances of survival, respectively.

Research Reports

CLINICAL

Success of 6-mm Implants with Single-Tooth Restorations: A 3-year Randomized Controlled Clinical Trial 623
P. Sahrmann, N. Naenni, R.E. Jung, U. Held, T. Truninger, C.H.F. Hämmerle, T. Attin, and P.R. Schmidlin
This RCT evaluated survival and bone-level changes of short and long unsplinted implants in the posterior regions, which were loaded with screw-retained single crowns for 3 y.

Recall of Dental Pain and Anxiety in a Cohort of Oral Surgery Patients 629
B.N. Kyle, D.W. McNeil, B. Weaver, and T. Wilson
The authors focus on the relation of dental fear, state anxiety, and depression to the experience and memory of pain during oral surgery (i.e., tooth extraction).

Inflammatory Response Influences Treatment of Localized Aggressive Periodontitis 635
N. Allin, Y. Cruz-Almeida, I. Velsko, A. Vovk, N. Hovemcamp, P. Harrison, H. Huang, I. Aukhil, S.M. Wallet, and L.M. Shaddox
The degree of inflammatory response to lipopolysaccharide present in localized aggressive periodontitis individuals affects the magnitude of response to periodontal treatment.

BIOMATERIALS & BIOENGINEERING

Bio-Root and Implant-Based Restoration as a Tooth Replacement Alternative 642
Z.H. Gao, L. Hu, G.L. Liu, F.L. Wei, Y. Liu, Z.H. Liu, Z.P. Fan, C.M. Zhang, J.S. Wang, and S.L. Wang
The bioengineered tooth root may provide a potential new method for tooth placement as compared to implants.

Autophagy Modulates Cell Mineralization on Fluorapatite Modified Scaffolds 650
Y. Li, T. Guo, Z. Zhang, Y. Yao, S. Chang, J.E. Nör, B.H. Clarkson, L. Ni, and J. Liu
Inhibiting autophagy impedes stem cell mineralization on polycaprolactone fluorapatite scaffolds.

BIOLOGICAL

Three-dimensional Micro-culture System for Tooth Tissue Engineering 657
S. Kuchler-Bopp, T. Bécavin, T. Kökten, J.L. Weickert, L. Keller, H. Lesot, E. Deveaux, and N. Benkirane-Jessel
The authors compare experimental protocols for epithelial-mesenchymal reorganization that leads to the formation of bioengineered teeth.

Delivery of RANKL-Binding Peptide OP3-4 Promotes BMP-2–Induced Maxillary Bone Regeneration 665
T. Uehara, S. Mise-Omata, M. Matsui, Y. Tabata, R. Murali, M. Miyashin, and K. Aoki
This is the first study to demonstrate that a single administration of a therapeutic peptide candidate promotes BMP-2–induced maxillary bone formation at the site of delivery.

Characterization of Regulatory Extracellular Vesicles from Osteoclasts 673
N. Huynh, L. VonMoss, D. Smith, I. Rahman, M.F. Felemban, J. Zuo, W.J. Rody Jr, K.P. McHugh, and L.S. Holliday
Osteoclasts release regulatory extracellular vesicles that are rich in receptor activator of nuclear factor κB.

Epithelial Microvesicles Promote an Inflammatory Phenotype in Fibroblasts 680
J. Bi, L. Koivisto, G. Owen, P. Huang, Z. Wang, Y. Shen, L. Bi, A. Rokka, M. Haapasalo, J. Heino, L. Häkkinen, and H.S. Larjava
Bacterial biofilms can contribute to the initiation and progression of periodontal disease by promoting a tissue-destructive phenotype in gingival fibroblasts via the enhanced secretion of epithelial microvesicles.

Research Reports (continued)

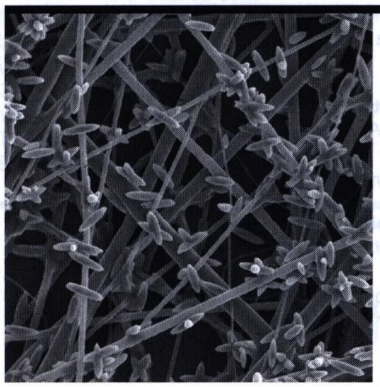
Osteoprotective Effects of Estrogen in the Maxillary Bone Depend on ERα 689
S. Macari, L. Ajay Sharma, A. Wyatt, P. Knowles, R.E. Szawka, G.P. Garlet, D.R. Grattan, G.J. Dias, and T.A. Silva
The osteoprotective effects of estrogen on the maxillary bone are mediated by ERα in both females and males.

Increased Apoptosis of Inflamed Odontoblasts Is Associated with CD47 Loss 697
H.S. Wang, F. Pei, Z. Chen, and L. Zhang
CD47 determines inflamed odontoblast cell fate.

Mast Cells Contribute to *Porphyromonas gingivalis*–induced Bone Loss 704
J. Malcolm, O. Millington, E. Millhouse, L. Campbell, A. Adrados Planell, J.P. Butcher, C. Lawrence, K. Ross, G. Ramage, I.B. McInnes, and S. Culshaw
In this study, the authors determined the contribution of mast cells to local bone destruction following oral infection with *Porphyromonas gingivalis*, finding that mast cells contribute to the pathology of periodontitis.

Levels of Candidate Periodontal Pathogens in Subgingival Biofilm 711
R.R.D.S. Oliveira, D. Fermiano, M. Feres, L.C. Figueiredo, F.R.F. Teles, G.M.S. Soares, and M. Faveri
The authors assessed the prevalence of new periodontal species/phylotypes in subjects with chronic periodontitis, aggressive periodontitis, and periodontal health.

CLASSIFIEDS 719



ABOUT THE COVER

Scanning electron microscope observation of synthetic polycaprolactone (PCL) plus fluorapatite-modified scaffolds.

For more details, see pages 650-656.